

PROCEEDINGS  
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FISHES FROM THE UPPER RIO META BASIN,  
COLOMBIA.

BY GEORGE S. MYERS.

Brother Hermano Apolinar Maria, of the Instituto de La Salle in Bogotá, has recently sent me a small but interesting collection of fishes from the headwaters of the Rio Meta on the eastern slope of the Cordillera of Bogotá. The fishes were taken at Guaicaramo, at the junction of the Rio Guavio and the Rio Upia, almost due east of Bogotá and north of Barrigón. The elevation is between 300 and 400 metres and there is direct communication with the Meta through the Upia.

Manuel Gonzales collected on the east slope of the Cordillera along the trail from Bogotá to Villavicencio and as far as Barrigón for Dr. Eigenmann in 1912. These, as well as other considerable collections received from Hermano Apolinar, were reported by Eigenmann in the appendix to his 1922 paper. This remains the compendium of our knowledge of Meta fishes.

Despite this previous work, our knowledge of the tremendous fish fauna of the Orinocan drainage of Colombia is yet extremely fragmentary, and no opportunity should be allowed to pass that promises to add anything of value. The present collection, despite its small size, contains four forms not before known from the region, two of them apparently new. Another one reported previously, but heretofore confused with its representative on the west of the Eastern Andes, is described as new. *Sternarchus leptorhynchus*, known both from Guiana far to the east and from the Dagua and San Juan, across the three ranges of the Andes, on the west, is particularly interesting.

Included with the Guaicaramo collection were three *Rivulus*

*magdalene* Eigenmann and Henn from El Castañal, a brook in the Upper Magdalena Basin, and two *Pygidium bogotense* Eigenmann from Guasca, north of Bogotá.

## GYMNOTIDÆ.

*Sternarchus leptorhynchus* Ellis.

One specimen, 210 mm. total length, from Guaicaramo.

End of tail regenerated. Eye slightly in advance of middle of head. Anus nearer to vertical of angle of gape than to vertical of pectoral origin. Angle of gape reaching considerably past hind border of eye. These characters are at variance with those given by Eigenmann (1922, p. 175) for specimens from west of the three ranges of the Cordillera, but my example agrees closely with Ellis' original description, based on Guiana material. This is the first record of the species from the Orinoco Basin. It is probable that the population in the San Juan and Dagua Basins will be found to differ somewhat on closer scrutiny.

## HEMIODONTIDÆ.

*Parodon apolinari*, sp. n.

*Diagnosis.*—A *Parodon* with small head, anterior dorsal fin, and a series of 13 or 14 vertical bars down the sides. Approaching *P. suborbitale* but with a smaller head, deeper body, wider interorbital, and lacking longitudinal lines. Differing from *P. gestri* of Matto Grosso and *P. caliensis* from across the eastern Cordillera in position of dorsal, head length, and other characters.

*Holotype.*—No. 23725 Stanford University, 89 mm. standard length; Guaicaramo, Rio Guavio, Colombia; January, 1928.

*Description.*—Dorsal I, 10. Anal I, 7. Pelvic I, 7. Scales 4-34-3,<sup>1</sup> 16 around caudal peduncle, 11 predorsal. Head 5.33 in standard length, depth 4. Eye 4 in head, 1.66 in snout, 2 in interorbital, which is contained twice in head. Snout equals postorbital part of head. Least depth of caudal peduncle equal to its length, 1.4 in head.

Dorsal origin nearer snout tip than caudal base by a distance equal to snout plus eye. Origin of pelvics under sixth dorsal ray. Pectorals do not reach pelvic origin by 6 scales. Pelvics do not reach anal fin origin by 2 scales. Anus situated 3 scales anterior to anal fin origin, well between the tips of the appressed pelvics. Adipose fin originating above base of last anal ray. Dorsal fin margin falcate when fin is widely spread, the first soft ray elongated, exceeding the head by a snout length. Caudal deeply forked, the lobes acutely pointed.

Mouth decidedly inferior, snout rather pointed. The enlarged posterior parts of the mandibular rami each bear three heavy truncated incisors, their tips curving slightly outward. The premaxillaries each bear four teeth, extremely narrow at the bases and greatly widened at the distal ends, the margins being crenulated. These 8 teeth thus form a plane, continuous,

<sup>1</sup>The vertical series of scales is counted from dorsal origin to pelvic origin.

finely crenulated cutting edge straight across the premaxillaries. Two smaller but similar teeth continue the series on the upper end of each maxillary.

The side, front, and inferior surfaces of the snout, as well as the region between the nostrils, are thickly beset with small prickly tubercles, apparently similar to the nuptial tubercles of male Cyprinoids. So far as I am aware such structures have not hitherto been noticed in the Characins.

A series of 13 or 14 dark vertical bars with equal interspaces along the sides, a number of them continued faintly over the back. Snout and dorsum brownish, venter lighter. Fins without definite markings.

There is but a single example. It is comparable in pattern only with *P. gestri* and *P. caliensis*, which differ sufficiently otherwise.

Named for Brother Hermano Apolinar Maria, Director of the Museum of the Instituto de La Salle, Bogotá.

CHARACIDÆ.

*Astyanax integer*, sp. n.

*Diagnosis*.—An *Astyanax* with predorsal region completely and regularly scaled, lateral line about 50, anal 30, the central caudal rays black, a well defined humeral blotch, and a wide dark lateral band from behind humeral spot to caudal.

*Holotype*.—No. 23726 Stanford University, 91 mm. standard length, 115 mm. total; Guaicaramo, Rio Guavio, Colombia; January, 1928.

*Description*.—Dorsal 11. Anal 30. Scales 10–50–7. Head 4 in standard length, depth 2.8. Eye equal to snout, 3.5 in head, 1.33 in interorbital.

Profile to tip of occipital process concave, thence evenly rounded to dorsal fin. Preventral area normally scaled, not compressed. Predorsal with a regular<sup>1</sup> series of 13 scales.

Interorbital smooth, convex. Occipital process long, 3.6 in the distance from its base to the dorsal, bordered by 4 scales. Frontal fontanel narrow, triangular. Maxillary reaches beneath anterior border of pupil. Lower jaw strong, equal to upper. Five teeth in inner series of each premaxillary, their outer surfaces concave, inner convex, the second, third, and fourth teeth seven-pointed, the last very small. Four teeth in the outer row of each premaxillary, the first set slightly forward. Maxillaries each with a single tooth at upper extremity, set next to the small end one of the inner premaxillary series. Dentaries each with four strong graduated teeth; a small fifth tooth is in line immediately behind and the tooth series then swings inward and back with a few very small teeth.

Gill-rakers 11+14, all of them rather long.

Origin of dorsal fin an orbit diameter nearer to snout tip than to caudal base. Height of dorsal 3.5 in standard length. Adipose fin well developed; caudal lobes pointed. Origin of anal equidistant from caudal base and origin of pectoral, slightly behind vertical of end of dorsal base. Pectorals reach pelvic fin origin; pelvics just fall short of reaching anal fin origin.

One or two interpolated series of scales low in the region over anal fin.

<sup>1</sup>In all but one scale.

Front of anal with a sheath of one row of scales. Lateral line slightly decurved.

A rounded humeral blotch almost as large as eye above second to fifth scales of lateral line; a faint vertical elongation above and below. Following this is a light space of three scales and then a dark band down side. Above the anal fin this is darkest and is as wide as the eye; over the end of the anal it narrows somewhat and then again widens at caudal base. The band is continued narrowly out to the tips of the central caudal rays.

This species would appear to be close to some forms of *A. abramis*, but the well scaled predorsal area and the wide dark band remove it definitely from that species. Eigenmann (1922, p. 235) records *A. abramis* from Caño Carniceria, but with the characters he gives it seems certain that he did not have *A. integer*.

#### **Hembrycon metæ, sp. n.**

*Diagnosis.*—Allied to *H. dentatus* (Eigenmann) and *H. decurrens* (Eigenmann) in the sagging lateral line, differing in the smaller eye, shorter head, and projecting lower jaw, and variously from one or the other in anal fin position, depth of peduncle, and number of scales.

*Holotype.*—No. 23727 Stanford University, 80 mm. standard length, 99 mm. total; Guaicaramo, Rio Guavio, Colombia; January, 1928.

*Description.*—Dorsal  $9\frac{1}{2}$ .<sup>1</sup> Anal 29. Scales 8-42-5 $\frac{1}{2}$ . Head 4.66 in standard length, depth 3. Eye 3.33 in head, 1.25 in interorbital. Least depth of caudal peduncle equal to its length, 1.66 in head.

Preventral area rather narrow, normally scaled. Occipital process short, bordered by 3 scales. Interorbital very convex in cross section. Predorsal with 13 scales not in wholly regular order.

Snout rather blunt, lower jaw rather prognathous. Great suborbital covering entire cheek except for a very small area at upper posterior corner. Maxillary extending under first third of pupil, not quite reaching great suborbital. Five teeth in outer row on each premaxillary, the first and last set forward; four in inner row. Six teeth on each maxillary, the last remote from the others. Dentary with five large teeth on each side, the last two grading down to the row of small teeth behind.

Gill-rakers 9+11.

Origin of dorsal fin a shade nearer to snout tip than to caudal base, the margin nearly straight when fin is spread, the longest ray extending a scale-length beyond the penultimate when fin is folded. Pelvic fins reach anus but not anal fin. Anal origin under last third of dorsal base.

Lateral line decurved, a straight line from its anterior to its posterior end passing through the middle of the second row of scales above it at a point above the middle of the appressed pelvic fins. Anal sheath of one scale row. Interpolated series begin over anal fin. Pectorals reaching down to base of pelvics (absolute measurement) or slightly beyond (horizontal measurement). Caudal with a very large basal scale on each lobe, this extending out a considerable distance.

<sup>1</sup>The last ray, split to the base, is counted as  $1\frac{1}{2}$ .



A very diffuse dark lateral band, strongest on peduncle, and a faint humeral blotch. Middle caudal rays black.

This form is undoubtedly the one from Villavicencio mentioned by Eigenmann (1927a, p. 414, footnote 2) under *H. dentatus*. In the final analysis, *dentatus*, *decurrans*, and *metæ* will possibly be found to be only subspecifically separable, but at the present state of our knowledge all we can do is to give them binomial recognition. *Metæ* resembles *dentatus* in anal fin position and in interpolated scales, and *decurrans* in depth of body, depth of peduncle and scale count. From both it would appear to differ in the projecting lower jaw, this being distinct in my only specimen, and in the shorter head and eye.

#### **Charax metæ** Eigenmann.

Two specimens, 45 and 72 mm. standard length, from Guaicaramo.

These differ from the types in the presence of pinnate black markings along the lateral line. *C. metæ* is very close to *pauciradiatus*<sup>1</sup> and not far from the *Anacyrthus sanguineus* of Cope.<sup>2</sup>

#### PIMELODIDÆ.

##### **Rhamdia quelen** (Quoy and Gaimard).

Two specimens 77 and 115 mm. standard length, from Guaicaramo.

Dorsal I, 6. Anal 10, counting rudiments. Jaws subequal. Teeth of upper jaw in a band which is not wider at ends than at center. Maxillary barbels reaching origin of adipose. Fontanel not extending behind eye. Dorsal spine smooth. No lateral band.

This is the first record for the Meta.

#### PYGIDIIDÆ.

##### **Pygidium kneri** (Steindachner).

One specimen, 104 mm. standard length, from Guaicaramo.

#### LORICARIIDÆ.

##### **Chætostomus anomalus** Regan.

One specimen, 80 mm. standard length, from Guaicaramo.

Adipose well developed. Snout faintly spotted with small round light dots. Eigenmann (1922, p. 226, footnote) has named a new form, *C. dorsalis*, with no description. Only his reference to Regan's figure places the fish. Undoubtedly the name was meant to apply to Regan's specimens without the adipose, but I do not believe that the presence or absence of the adipose in this group is of specific value.

<sup>1</sup>See Garman, *Bull. Essex Inst.*, 1890, xxii, p. 11.

<sup>2</sup>*Proc. Acad. Nat. Sci. Philadelphia*, 1872, p. 266, pl. 9, fig. 1.

**Farlowella acus** (Kner).

Two specimens, 113 and 135 mm. standard length, from Guaicaramo.

The larger is a male with broad snout covered with fine prickles, the smaller a female with more slender smooth snout.

## CICHLIDÆ.

**Crenicichla geayi** Pellegrin.

One specimen, 77 mm. standard length, from Guaicaramo.

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